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EXAMINER	
BULLOCK JR, LEWIS ALEXANDER	
ART UNIT	**PAPER NUMBER**
2195	

DATE MAILED: 12/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/847,534	NOVIK ET AL.	
	Examiner	Art Unit	
	Lewis A. Bullock, Jr.	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25,27-31,34,35 and 37-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25,27-31,34,35 and 37-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 May 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/7/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-25, 27-31, 34, 35 and 37-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over FERIDUM (U.S. Patent 6,336,139) in view of NGUYEN (U.S. Patent 6,751,753).

As to claims 1 and 10, FERIDUN teaches a computer-implemented method embodied in a computer-readable medium that is executable by a processor comprising instructions for: receiving a plurality of events (events from event streams); applying the plurality of events to a correlation function (correlation rule), wherein the correlation function (correlation rule) is implemented as a state machine (state machines) and is configured to correlate the plurality of events (events); and generating a specific event (action / control signal / another event) if the correlation function is satisfied by the plurality of events (col. 2, lines 43-62; col. 3, lines 9-20; col. 9, lines 15-22; col. 9, lines 41-57; col. 10, lines 5-19; col. 12, lines 32-47). However, FERIDUN does not teach applying the update consumer to the state machine in response to the identified event.

NGUYEN teaches an object oriented state machine wherein events and parameters are received in the state machine and evaluated to transition conditions to determined if a satisfied condition occurs in order to execute a state action (col. 2, lines 1-14). NGUYEN also teaches the state action includes a function of altering the

operation of a hardware or software component as well as updating the state of the state machine (col. 6, lines 26-35; col. 2, lines 35-40). It would be obvious that since the updating action (update consumer) is invoked when the identified event is determined to corresponding to the condition, that the updating action (update consumer) is subscribed to an identified event and is associated with the state machine such that it is applied in response to the identified event. Therefore, it would be obvious to one of ordinary skill in the art to combine the teachings of FERIDUN with the teachings of NGUYEN in order to provide a greater degree of flexibility in monitoring system states (col. 1, lines 58-62).

As to claims 11 and 19, FERIDUN teaches a computer-implemented method embodied in a computer-readable medium that is executable by a processor comprising instructions for: receiving a plurality of events (events from one event stream); receiving a plurality of data elements (information from a subsequent event stream / data stream); identifying a plurality of correlation functions (correlators of the plurality of agents) configured to correlate the plurality of events and the plurality of data elements wheein each correlation function is implemented with an associated state machine (via the registered interest in events by agents); applying the plurality of events and the plurality of data elements to the plurality of correlation functions (via sending events to agents and correlating the streams); and generating a specific event if at least one of the plurality of correlation functions is satisfied (generation of an event issued to another node) (col. 9, lines 41-57; col. 12, lines 62-67; col. 10, lines 5-19; col. 6, lines 21-60; col.

2, lines 38-62; col. 8, lines 15-28). However, FERIDUN does not teach applying the update consumer to the state machine in response to the identified event.

NGUYEN teaches an object oriented state machine wherein events and parameters are received in the state machine and evaluated to transition conditions to determined if a satisfied condition occurs in order to execute a state action (col. 2, lines 1-14). NGUYEN also teaches the state action includes a function of altering the operation of a hardware or software component as well as updating the state of the state machine (col. 6, lines 26-35; col. 2, lines 35-40). It would be obvious that since the updating action (update consumer) is invoked when the identified event is determined to corresponding to the condition, that the updating action (update consumer) is subscribed to an identified event and is associated with the state machine such that it is applied in response to the identified event. Therefore, it would be obvious to one of ordinary skill in the art to combine the teachings of FERIDUN with the teachings of NGUYEN in order to provide a greater degree of flexibility in monitoring system states (col. 1, lines 58-62).

As to claims 20 and 27, FERIDUN teaches a computer-implemented method embodied in a computer-readable medium that is executable by a processor comprising instructions for: having the state machines (correlators having correlation rules) to correlate at least two events (events / event streams) (col. 2, lines 43-62; col. 3, lines 9-20; col. 9, lines 15-22; col. 9, lines 41-57; col. 10, lines 5-19; col. 12, lines 32-47); creating an instance of a particular state machine (via breeder routine / non-mobile

event processing host instantiating agents that have correlation rules) (col. 10, lines 47-58); and defining transitions for the particular state machine by subscribing to at least one event (via registering interests in events) (col. 8, lines 15-28). FERIDUN also teaches that the agents / state machines are implemented in Java (col. 6, lines 56-60). However, FERIDUN does not teach the steps of identifying a schema for creating state machines and applying an update consumer to the particular state machine to update the state of the particular state machine. Schema as defined in the dictionary and used in the specification, page 17, line 17 – page 18, line 5 refers to the structured framework of the state machine.

NGUYEN teaches an object oriented state machine (schema of a state machine) wherein events and parameters are received in the state machine and evaluated to transition conditions to determined if a satisfied condition occurs in order to execute a state action (col. 2, lines 1-14). NGUYEN also teaches applying the state action includes a function of altering the operation of a hardware or software component as well as updating the state of the state machine as a class object (col. 2, lines 35-40; fig. 3; col. 5, line 64 – col. 6, line 35). It would be obvious that since the updating action (update consumer) is invoked when the identified event is determined to corresponding to the condition, that the updating action (update consumer) is subscribed to an identified event and is associated with the state machine such that it is applied in response to the identified event. Therefore, it would be obvious to one of ordinary skill in the art to combine the teachings of FERIDUN with the teachings of NGUYEN in order to provide a greater degree of flexibility in monitoring system states (col. 1, lines 58-62).

As to claim 28, FERIDUN teaches an apparatus comprising: a plurality of event consumers (registered agents); and an event correlator (correlation rule / correlator) coupled to the plurality of event consumers (col. 9, lines 1-9; fig. 6), the event correlator to receive events from at least one event source (events received from one event stream) and to receive data elements (information received from another event stream / data stream) from at least one data source, the event correlator further to receive at least one correlation function (correlation rule) configured to correlate events and data elements and to apply the received events and the received data elements to the correlation function, wherein the correlation function is implemented by a state machine (via sending events to agents and correlating the streams), wherein the event correlator generates a specific event if the received events and the received data satisfy the correlation function (generation of an event issued to another node) (col. 9, lines 41-57; col. 12, lines 62-67; col. 10, lines 5-19; col. 6, lines 21-60; col. 2, lines 38-62; col. 8, lines 15-28). However, FERIDUN does not teach applying the update consumer to the state machine in response to the identified event.

NGUYEN teaches an object oriented state machine wherein events and parameters are received in the state machine and evaluated to transition conditions to determined if a satisfied condition occurs in order to execute a state action (col. 2, lines 1-14). NGUYEN also teaches the state action includes a function of altering the operation of a hardware or software component as well as updating the state of the state machine (col. 6, lines 26-35; col. 2, lines 35-40). It would be obvious that since

the updating action (update consumer) is invoked when the identified event is determined to corresponding to the condition, that the updating action (update consumer) is subscribed to an identified event and is associated with the state machine such that it is applied in response to the identified event. Therefore, it would be obvious to one of ordinary skill in the art to combine the teachings of FERIDUN with the teachings of NGUYEN in order to provide a greater degree of flexibility in monitoring system states (col. 1, lines 58-62).

As to claim 35, FERIDUN teaches one or more computer readable media having stored thereon a computer program that, when executed by one or more processors, causes the one or more processors to: receive a plurality of events (events from event streams); identify a plurality of correlation functions (correlation rules) configured to correlate the plurality of events wherein each of the plurality of correlation functions is implemented as a state machine; apply the plurality of events to the plurality of correlation functions to determine whether any of the plurality of correlation functions are satisfied by the plurality of events; and generate a specific event (action / control signal / another event) if one of the plurality of correlation functions is satisfied by the plurality of events (col. 2, lines 43-62; col. 3, lines 9-20; col. 9, lines 15-22; col. 9, lines 41-57; col. 10, lines 5-19; col. 12, lines 32-47). However, FERIDUN does not teach applying the update consumer to the state machine in response to the identified event.

NGUYEN teaches an object oriented state machine wherein events and parameters are received in the state machine and evaluated to transition conditions to

determined if a satisfied condition occurs in order to execute a state action (col. 2, lines 1-14). NGUYEN also teaches the state action includes a function of altering the operation of a hardware or software component as well as updating the state of the state machine (col. 6, lines 26-35; col. 2, lines 35-40). It would be obvious that since the updating action (update consumer) is invoked when the identified event is determined to corresponding to the condition, that the updating action (update consumer) is subscribed to an identified event and is associated with the state machine such that it is applied in response to the identified event. Therefore, it would be obvious to one of ordinary skill in the art to combine the teachings of FERIDUN with the teachings of NGUYEN in order to provide a greater degree of flexibility in monitoring system states (col. 1, lines 58-62).

As to claim 40, FERIDUN teaches a method comprising: receiving events from event providers (events from event streams); creating a first state machine (initial state machine); creating a second state machine (subsequent state machine); associating a first event type with the first state machine (event is handled by the first state machine); associating a second event type with the second state machine (event is handled by second state machine); in response to receiving an event having a first event type, performing an action to the first state machine (if event is handled by initial state machine perform action); in response to receiving an event having a second event type, applying an action to the second state machine (if event is handled by subsequent state machine perform action) (col. 9, lines 58-65; col. 3, lines 21-27; col. 11, lines 11-23; col

12, lines 32-61), and if the events are correlated, generating an additional event (action / control signal / another event); and sending the additional event to an event consumer (another node) (col. 2, lines 43-62; col. 3, lines 9-20; col. 9, lines 15-22; col. 9, lines 41-57; col. 10, lines 5-19; col. 12, lines 32-54). However, FERIDUN does not teach applying the update consumer to the state machine in response to the identified event.

NGUYEN teaches an object oriented state machine wherein events and parameters are received in the state machine and evaluated to transition conditions to determined if a satisfied condition occurs in order to execute a state action (col. 2, lines 1-14). NGUYEN also teaches the state action includes a function of altering the operation of a hardware or software component as well as updating the state of the state machine (col. 6, lines 26-35; col. 2, lines 35-40). It would be obvious that since the updating action (update consumer) is invoked when the identified event is determined to corresponding to the condition, that the updating action (update consumer) is subscribed to an identified event and is associated with the state machine such that it is applied in response to the identified event. Therefore, it would be obvious to one of ordinary skill in the art to combine the teachings of FERIDUN with the teachings of NGUYEN in order to provide a greater degree of flexibility in monitoring system states (col. 1, lines 58-62).

As to claim 2, NGUYEN teaches the update consumer is a class object (via part of the base state class) (fig. 3; col. 5, line 64 – col. 6, line 35).

As to claims 3 and 4, FERIDUN teaches receiving a data element (s) (information from a subsequent event stream / data stream); and applying the data element (s) and at least one of the plurality of events to the correlation function (via sending events to agents and correlating the streams) (col. 9, lines 41-57; col. 12, lines 62-67; col. 10, lines 5-19; col. 6, lines 21-60; col. 2, lines 38-62; col. 8, lines 15-28).

As to claim 5, FERIDUN teaches communicating the specific event (action / control signal / another event) to at least one event consumer (registered agent) that subscribed to the specific event (col. 2, lines 43-62; col. 3, lines 9-20; col. 9, lines 15-22; col. 9, lines 41-57; col. 10, lines 5-19; col. 12, lines 32-47).

As to claim 6, FERIDUN teaches continuing to receive additional events (events) and apply the additional events (events) to the correlation function (correlation rules) if the correlation function is not satisfied by the plurality of events (col. 8, lines 15-34; col. 8, lines 53-61).

As to claim 7, FERIDUN teaches resetting the correlation function after generating a specific event (via reset rules / after handling of event, correlation rule de-activates itself) (col. 9, lines 36-37; col. 9, lines 54-57; col. 12, lines 32-45).

As to claim 8, FERIDUN teaches creating an instance of a particular state machine (via breeder routine / non-mobile event processing host instantiating agents

that have correlation rules) (col. 10, lines 47-58); and defining transitions for the particular state machine by subscribing to at least one event (via registering interests in events) (col. 8, lines 15-28).

As to claim 9, FERIDUN and NGUYEN substantially disclose the invention as disclosed above. In addition, FERIDUN and NGUYEN teach de-activating the correlation function, i.e. state machine, when either its criteria have been met or a specified timeout has occurred (col. 12, lines 32-40). However, FERIDUN and NGUYEN do not explicitly teach deleting or removing a state machine once it has reached a final state. Official Notice is taken in that it is well known in the art that a state machine is removed or deleted once it has reached a final or target state. See U.S. Patents 5930,482; 5,913,043; 5,958,035; 6,307,546; and U.S. Patent Publication 2002/0040409 A1 for examples. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention use the well known technique deleting the state machine once it has reached a final state with the system of FERIDUN and NGUYEN in order to facilitate the manage the operation of state machines based on state changes.

As to claim 12, refer to claim 9 for rejection.

As to claim 13, refer to claim 2 for rejection.

As to claim 14, refer to claim 5 for rejection.

As to claims 15 and 16, refer to claim 3 and 4 for rejection. However, claim 16 further details receiving additional correlation functions. FERIDUN teaches the registering of agents via the registering of correlation functions (col. 8, lines 23-27) and the dynamic generation of agents (col. 9, lines 54-57). It is inherent within the teachings of FERIDUN that when agents are generated they register correlation functions in order to register interest in particular events, thereby teaching the step of receiving additional correlation functions.

As to claim 17, FERIDUN teaches the registering of correlation functions (col. 8, lines 23-27) and generating a specific event if a correlation function is satisfied (col. 2, lines 43-62; col. 3, lines 9-20; col. 9, lines 15-22; col. 9, lines 41-57; col. 10, lines 5-19; col. 12, lines 32-47). It is inherent within the teachings of FERIDUN that the additional registered correlation functions of the generated agent also generate a specific event when satisfied.

As to claim 18, FERIDUN teaches the specific event generated is dependent on which correlation function is satisfied (depending on the rule requirements in order for an event to be satisfied, i.e. if a specific number of the same type of event has occurred, a threshold rule is triggered, whether an event matches a search criteria, a matching rule is triggered) (col. 9, lines 15-40).

As to claims 21 and 22, FERIDUN and NGUYEN substantially disclose the invention as disclosed above. In addition, FERIDUN and NGUYEN teach de-activating the correlation function, i.e. state machine, when either its criteria have been met or a specified timeout has occurred (col. 12, lines 32-40). However, FERIDUN and NGUYEN do not explicitly teach deleting or removing a state machine once it has reached a final state. Official Notice is taken in that it is well known in the art that a state machine is removed or deleted once it has reached a final or target state. See U.S. Patents 5930,482; 5,913,043; 5,958,035; 6,307,546; and U.S. Patent Publication 2002/0040409 A1 for examples. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention use the well known technique deleting the state machine once it has reached a final state with the system of FERIDUN and NGUYEN in order to facilitate the manage the operation of state machines based on state changes.

As to claims 23 and 24, FERIDUN teaches the particular state machine correlates at least one event (events from one event stream) and at least one data element (information from a subsequent event stream / data stream) (col. 9, lines 41-57; col. 12, lines 62-67; col. 10, lines 5-19; col. 6, lines 21-60; col. 2, lines 38-62; col. 8, lines 15-28).

As to claim 25, FERIDUN teaches determining a current state of the particular state machine (whether the state machine is satisfied / whether the correlation rule is either active or de-active) (col. 11, lines 11-23; col. 11, line 61 – col. 12, line 9).

As to claims 29-31, FERIDUN teaches the event correlator communicates the specific event (event) to event consumers that have requested to receive the specific event (agents registered to receive the event) by using a filter (intermediate location / monitor) of the consumers (col. 8, lines 15-28 col. 8, lines 53-61; col. 8, lines 62-67).

As to claim 34, FERIDUN teaches continuing to receive additional events (events) and additional data elements (other events / data from data stream) and apply the additional events and data elements (events / data from data stream) to the correlation function (correlation rules) (col. 8, lines 15-34; col. 8, lines 53-61; col. 12, lines 62-67).

As to claim 37, FERIDUN teaches the state machine is a class object (col. 6, lines 55-66). NGUYEN also teaches the state machine is a class object (col. 4, lines 55-66).

As to claim 38, FERIDUN teaches identify a current state of the state machine (whether rule is active or de-active) (col. 11, lines 11-23; col. 11, line 61 – col. 12, line 9).

As to claim 39, FERIDUN teaches the state machines (correlators having correlation rules) to correlate at least two events (events / event streams) (col. 2, lines

43-62; col. 3, lines 9-20; col. 9, lines 15-22; col. 9, lines 41-57; col. 10, lines 5-19; col. 12, lines 32-47); creating an instance of a particular state machine (via breeder routine / non-mobile event processing host instantiating agents that have correlation rules) (col. 10, lines 47-58); and defining transitions for the particular state machine by subscribing to at least one event (via registering interests in events) (col. 8, lines 15-28).

As to claim 41, FERIDUN and NGUYEN substantially disclose the invention as disclosed above. In addition, FERIDUN and NGUYEN teach de-activating the correlation function, i.e. state machine, when either its criteria have been met or a specified timeout has occurred (col. 12, lines 32-40). However, FERIDUN and NGUYEN do not explicitly teach deleting or removing a state machine once it has reached a final state. Official Notice is taken in that it is well known in the art that a state machine is removed or deleted once it has reached a final or target state. See U.S. Patents 5930,482; 5,913,043; 5,958,035; 6,307,546; and U.S. Patent Publication 2002/0040409 A1 for examples. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention use the well known technique deleting the state machine once it has reached a final state with the system of FERIDUN and NGUYEN in order to facilitate the manage the operation of state machines based on state changes.

As to claims 42 and 43, FERIDUN teaches the additional event is sent to the event consumer through a filter (intermediate location / monitor) associated with the

event logging consumer (subscribed consumer) (col. 8, lines 15-28; col. 8, lines 53-61; col. 8, lines 62-67; col. 9, lines 54-57; col. 12, lines 48-54).

Response to Arguments

3. Applicant's arguments with respect to claims 1-25, 27-31, 34, 35 and 37-43 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis A. Bullock, Jr. whose telephone number is (571)

272-3759. The examiner can normally be reached on Monday-Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER

December 19, 2005